

## **UPDATE ON PERTUSSIS IN WISCONSIN**

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As of December 8, over 4400 cases of pertussis have been identified in Wisconsin in 2004. Milwaukee County led the total case reports (over 940 confirmed and probable cases), with Dane, Waukesha, and Washington Counties not far behind. This is >6 times the total cases for 2003, and >20 times the typical WI case count.

The number of pertussis hospitalizations is more than twice normal, indicating that the big increase in cases is more than a matter of increased awareness and improved testing - - this is a serious, real outbreak.

Pertussis immunity, either through vaccination or natural disease exposure, wanes over time. Pertussis therefore can occur in any age, and tends to present in an atypical, less-severe fashion in partially immunized younger children and especially in fully immunized preteens and adolescents.

The early, catarrhal phase of pertussis (and the most infectious period) looks like the common cold lasting for several days before a cough sets in. Without a high index of suspicion, the child with pertussis may have several days of intense exposure to others before the parents seek medical attention and health care providers zero in on the pertussis diagnosis.

Schools and public health nurses have been instructed to do aggressive case and contact finding by the State Health Department using case definitions like a cough for more than 7 days, paroxysmal cough, and post-tussive vomiting. A nighttime cough, and a cough not responding to cough medicine, are also suspicious of pertussis, and contact to a confirmed or probable case increases the level of suspicion. Suspect and probable cases need a PCR test; probable and confirmed cases need appropriate antibiotics and isolation for 5 days; asymptomatic contacts need antibiotics too because the window for effective prophylaxis is narrow. Such broad definitions and aggressive follow up are well conceived, and a necessary evil to blunt this epidemic.

The categorization of pertussis cases as Clinical, Confirmed, Probable, and Suspect are reasonably defined so that practitioners can use their clinical judgment to determine the status of the patient they are examining.

Unfortunately, at this time of the year, using historical or clinical grounds to separate out the patients with viral disease from those with pertussis is a terrific challenge. It is better, however, to err on the side of testing patients who might have symptoms that may be consistent with either typical or modified pertussis, starting them on antibiotic treatment and isolating them for the required 5 days. If the PCR comes back negative, treatment and isolation can be discontinued.

Testing and isolation for pertussis are indicated only in individuals who have developed symptoms. Testing is *not* effective in asymptomatic individuals, even if they have had substantial contact to a case and/or are receiving antibiotic prophylaxis. Likewise, isolation is *not* needed for asymptomatic contacts, regardless of whether they are receiving antibiotic prophylaxis (e.g., due to known exposure to a confirmed or probable case) or are simply being monitored for symptoms (e.g., after possible exposure to an unconfirmed suspect case).

Any negative PCR obtained 8 days or more after the onset of the cough (or after more than 4 days of antibiotics) is of questionable reliability in actually ruling out pertussis. Such patients are probably no longer infectious, but should still be considered suspect, probable, or clinical cases depending on the history. Thus, their close contacts from prior to the negative test need to be assessed for symptoms and strongly considered for antibiotic prophylaxis (unless they are asymptomatic *and* beyond the 3-week incubation window since last exposure).

It can sometimes be a challenge for the primary care physician when patients are referred to the office as a “contact” or “close contact” by the public health nurse or the school system and the clinical details of the type and degree of exposure are lacking. A “close contact” is defined as either 1) face-to-face contact with a symptomatic index case in the catarrhal or early paroxysmal phase, 2) close proximity in a shared confined space for an hour or more with an index case, and/or 3) direct contact with oral, respiratory or nasal secretions of a symptomatic index case. The public health nurses will have diligently attempted to weed out close contacts from more vague possible exposures; they share your concern about the overuse of antibiotics, especially macrolides, and will attempt to communicate clinical information to you. If you need more clinical or exposure information prior to making a treatment or prophylaxis decision, your public health colleagues urge you to call them to discuss the case.

Additional details on pertussis control in Wisconsin can be found at [www.dhfs.wisconsin.gov/immunization](http://www.dhfs.wisconsin.gov/immunization), at [www.milwaukee.gov/health](http://www.milwaukee.gov/health), or by calling your local health department.